What is claimed is:

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1.

A method for activating and modulating the immune system of an animal comprising:

growing bacteria in a medium;

exposing said bacteria to biological, chemical or physical stress collecting said supernatant, and

administering said supernatant to said animal.

2.

The method of claim 1 wherein said step of stressing comprises reducing the bioavailability of nutrients to said bacteria.

3.

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The method of claim 1 wherein said step of stressing said bacteria is selected from the group consisting of:

altering the pH of said media to affect the bioavailability of nutrients in said media,

removing nutrients from said media, crowding by reducing the volume of said media, or by adding additional bacterial to said media, and

removing said bacteria from said media by centrifugation and resuspending said bacteria in a non-nutritive isotonic solution.

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1 4.

The method of claim 3 wherein said non-nutritive isotonic solution comprises 0.9% sodium chloride.

5.

The method of claim 1 further comprising the step of:

identifying absorbencies at 220, 254 or 280 nm in said supernatant.

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6.

The method of claim 1 further comprising the step of filtering said supernatant so that all components with a size greater than 10 kDa are removed.

7.

The method of claim 3 wherein said non-nutritive isotonic solution is .01M phosphate buffer, pH 7.5.

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8.

An immune modulating composition prepared by the method of:

growing bacteria in a medium;

exposing said bacteria to biological, chemical or physical stress; and

collecting said supernatant.

9.

The method of claim 8 wherein said step of stressing comprises reducing the bioavailability of nutrients to said bacteria.

10.

The method of claim 8 wherein said step of stressing said bacteria is selected from the group consisting of:

altering the pH of said media to affect the bioavailability of nutrients in said media,

removing nutrients from said media,

reducing the volume of said media,

removing said bacteria from said media by centrifugation and resuspending said bacteria in a non-nutritive isotonic solution; and

adding additional bacterial to said media.

11.

The method of claim 10 wherein said non-nutritive isotonic solution comprises 0.9% sodium chloride.

12.

The method of claim 8 further comprising the step of: identifying absorbencies at 220, 254 or 280 nm in said supernatant.

13.

The method of claim 8 further comprising the step of filtering said supernatant so that all components with a size greater than 10 kDa are removed.

14.

The method of claim 10 wherein said non-nutritive isotonic solution is .05M phosphate buffer.

15.

A method for modulating the immune system of an animal comprising:
administering to said animal a composition comprising:
a supernatant <10 kDa collected from stressed bacteria.

16.

The method of claim 1 wherein said animal is protected against local or systemic inflammatory conditions or aberrant immune responses selected from the group consisting of shock, allergic reactions, and immune suppression.

17.

The method of claim 1 wherein said animal is selected from poultry and livestock and said composition is administered to protect against bacterial infection and to increase feed efficiencies of said animal, comprising:
administering said composition orally in a dosage of about 1000 to 50000 AU of SRFs <10 kDa.

18.

The method of claim 1 wherein said composition is administered to said animal in a delivery form selected from the group consisting of gels and lozenges for oral delivery, nasal sprays, ear drops, vaginal creams and suppositories and topical ointments.

19.

The method of claim 1 wherein said animal is a human and said composition is administered to protect against bacterial infection and endotoxin-induced shock comprising:
administering said composition orally or parenterally in a dosage of about 1000 to 50000 AU of SRFs <10 kDa.

20.

The method of claim 1 wherein said animal is selected from poultry and livestock and said composition is administered to protect against bacterial infections and to increase feed efficiencies of said animal, comprising:
administering bacteria selected to ferment certain grains and crops and to produce 1000 to 50000 AU of SRFs <10 kDa to said animal during consumption of the grain or silage. This requirement can be met by inoculating grains and silage with 10^9 CFU of fermentative bacteria capable of producing 1000 to 50000 AU of SRFs <10 kDa when transferred to 0.01M phosphate, pH 7.5 for a period of 3 hours at 37°C.

21.

The method of claim 1 wherein said animal is orally vaccinated with a killed pathogen together with said composition as an adjuvant to activate the animal's mucosal macrophages and immune system to produce higher levels of circulating antibodies against the dead pathogen, comprising:

administering said composition orally or parenterally in a dosage of about 1000 to 50000 AU of SRFs <10 kDa.

22.

The method of claim 1 wherein SRFs collected from bacteria are added to viable cultures of starter bacteria in order to maintain their viability during storage and shipping. An amount of sterile total SRFs or SRF <10 kDa collected from bacteria equal to those related by the strain to be protected are added to the strain as a powder or liquid suspension.

23.

The method in claim 1 wherein SRFs collected from bacteria are added to animal feed to augment or replace antibiotics now typically added to improve weight gains and animal health, by:

administering 1000 to 50000 AU of sterile SRFs <20 kDa to said animal daily as a feed additive, with or without added antimicrobials;

administering feed augmented with sufficient CFU of harmless bacteria as a feed additive, with or without added antimicrobials, capable of producing 1000 to 50000 AU of SRFs <10 kDa when transferred to 0.01M phosphate, pH 7.5 for a period of 3 hours at 37°C. This requirement can be met by the addition of 5X 10^{8-9} CFU of fermentative bacteria selected as high producers of oligomeric SRF.

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